H1083

0054266

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-054 H1083

DATE RECEIVED: 10/07/00 RFW LOT # :0010L907

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10F62						
TCLP	001	SO	00LTO114	10/04/00	10/16/00	10/17/00
B10F63						
TCLP	002	SO	00LTO114	10/04/00	10/16/00	10/17/00
B10F62						
LEAD, TCLP LEACHATE	003	W	99L1635	10/17/00	10/18/00	10/18/00
B10F63						
LEAD, TCLP LEACHATE	004	W	99L1635	10/17/00	10/18/00	10/18/00
LEAD, TCLP LEACHATE	004 REP	W	99L1635	10/17/00	10/18/00	10/18/00
LEAD, TCLP LEACHATE	004 MS	W	99L1635	10/17/00	10/18/00	10/18/00

LAB QC:

LEAD LABORATORY	LC1 BS	W	99L1635	N/A	10/18/00	10/18/00
LEAD, TCLP LEACHATE	MB1	W	99L1635	N/A	10/18/00	10/18/00
LEAD, TCLP LEACHATE	MB2	W	99L1635	N/A	10/18/00	10/18/00

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B00-054
RFW#: 0010L907
SDG/SAF#: ~~H1086~~/B00-054
H1083 JMD 12/13/00

W.O.#: 10985-001-001-9999-00
Date Received: 10-07-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 2 TCLP leachate samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

3. All analyses were performed within the required holding times.

4. The cooler temperature has been recorded on the Chain of Custody.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

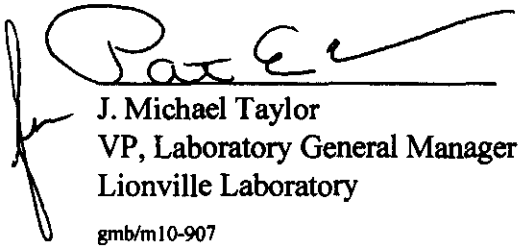
9. The laboratory control sample (LCS) was within the 80-120% control limits. Refer to form 7.

10. The duplicate analysis was within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

11. The TCLP extract from sample B10F63 was selected for the matrix spike (MS) for this analytical batch. The MS recovery was greater than 50% as per method criteria.

11. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

12. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.



12-6-00

J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

Date

gmb/m10-907

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 00101907

Leaching Procedure: __1310 ✓1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A ✓3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7			__99
Antimony	__6010B __7041 [5]	__200.7 __204.2			__99
Arsenic	__6010B __7060A [5]	__200.7 __206.2	__3113B		__99
Barium	__6010B	__200.7			__99
Beryllium	__6010B	__200.7			__99
Bismuth	__6010B [1]	__200.7 [1]		__1620	__99
Boron	__6010B	__200.7			__99
Cadmium	__6010B __7131A [5]	__200.7 __213.2			__99
Calcium	__6010B	__200.7			__99
Chromium	__6010B __7191 [5]	__200.7 __218.2			__SS17
Cobalt	__6010B	__200.7			__99
Copper	__6010B __7211 [5]	__200.7 __220.2			__99
Iron	__6010B	__200.7			__99
Lead	✓6010B __7421 [5]	__200.7 __239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7		__1620	__99
Magnesium	__6010B	__200.7			__99
Manganese	__6010B	__200.7			__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2] __245.5 [2]			__99
Molybdenum	__6010B	__200.7			__99
Nickel	__6010B	__200.7			__99
Potassium	__6010B __7610 [4]	__200.7 __258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]		__1620	__99
Selenium	__6010B __7740 [5]	__200.7 __270.2	__3113B		__99
Silicon	__6010B [1]	__200.7		__1620	__99
Silica	__6010B	__200.7		__1620	__99
Silver	__6010B __7761 [5]	__200.7 __272.2			__99
Sodium	__6010B __7770 [4]	__200.7 __273.1 [4]			__99
Strontium	__6010B	__200.7			__99
Thallium	__6010B __7841 [5]	__200.7 __279.2 __200.9			__99
Tin	__6010B	__200.7			__99
Titanium	__6010B	__200.7			__99
Uranium	__6010B [1]	__200.7 [1]		__1620	__99
Vanadium	__6010B	__200.7			__99
Zinc	__6010B	__200.7			__99
Zirconium	__6010B [1]	__200.7 [1]		__1620	__99

Other:_____ **Method:**_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

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INORGANICS DATA SUMMARY REPORT 12/06/00

CLIENT: TNUHANFORD B00-054 H1083 RECRA LOT #: 0010L907

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B10F62	Lead, TCLP Leachate	591	UG/L	22.1	1.0
-004	B10F63	Lead, TCLP Leachate	2590	UG/L	22.1	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 12/06/00

CLIENT: TNUHANFORD B00-054 H1083 RECRA LOT #: 0010L907

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1635-MB1	Lead, TCLP Leachate	22.1	u	UG/L	22.1	1.0
BLANK2	99L1635-MB2	Lead, TCLP Leachate	22.1	u	UG/L	22.1	1.0

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INORGANICS ACCURACY REPORT 12/06/00

CLIENT: TNUHANFORD B00-054 H1083 RECRA LOT #: 0010L907

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-004	B10F63	Lead, TCLP Leachate	7670	2590	5000	101.7	1.0

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INORGANICS PRECISION REPORT 12/06/00

CLIENT: TNUHANFORD B00-054 H1083 RECRA LOT #: 0010L907

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-004REP	B10F63	Lead, TCLP Leachate	2590	2750	5.9	1.0

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INORGANICS LABORATORY CONTROL STANDARDS REPORT 12/06/00

CLIENT: TNUHANFORD B00-054 H1083 RECRA LOT #: 0010L907

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L1635-LC1	Lead, LCS	2380	2500	UG/L	95.0

RECRA LabNet Use Only
00101907

Custody Transfer Record/Lab Work Request

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FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECR LabNe

Client TTU-Hanford B00-054
Est. Final Proj. Sampling Date
Project # 10985-001-001-9999-00
Project Contact/Phone #
RECRA Project Manager OJ
QC Spec Del Std TAT 7day

Date Rec'd 10-7-00 Date Due 10-14-00
Account #

Refrigerator #																		
#/Type Container	Liquid								1A									
	Solid								1G									
Volume	Liquid								250									
	Solid								-									
Preservatives																		
ANALYSES REQUESTED →		ORGANIC									INORG							
		VOA	BNA	Pest/ PCB	Herb						Metal	CN						
											1	1						

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (Y)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only										
			MS	MSD														
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	001	B10F62			So	10-4-00	0915					ITCLP	mPBTC					
	002	" 63			"	"	1000					✓						
	003	" 62 tcp of 001			L	*	-						✓					
	004	" 63 " 002			"	"	-						✓					

Special Instructions: Saf B00-054

Run Matrix

DATE/REVISIONS:
* 1. See labchron
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fedex	TKappel	10-7-00	0950

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
4235 7953 9702

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # See below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outr Package (Y) or N
3) Present on Samp (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Presen Upon Sample Rec't (Y) or N
Cooler Temp. 5.6 °C

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Bechtel Hanford Inc. — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B00-054-058 | Page 1 of 1

Collector: RB Kerkow / D. SHEA	Company Contact: RB Kerkow	Telephone No.: 531-0635	Project Coordinator: TRENT, SJ
Price Code: 8J	Air Quality ☐	Data Turnaround: 7 days	
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: 116-N-3 Survey Booth		SAF No.: B00-054
Ice Chest No.: ERC99-043 (1 OF 1)	Field Logbook No.: EL-1524	COA: R1325N2600	Method of Shipment: Fed Ex
Shipped To: ~~GMA~~/RECRA RK 10/4/00	Offsite Property No.: A000348		Bill of Lading/Air Bill No.: 4235 4953 - 9702

POSSIBLE SAMPLE HAZARDS/REMARKS
NONE

Special Handling and/or Storage
None

	Cool 4C
Preservation	Cool 4C
Type of Container	G
No. of Container(s)	1
Volume	250mL

Samples stored in Ref.# 2A at the 3728 Shipping Facility on 10/4/00. Collector not available to relinquish samples on 10/6/00 for shipment. RT 10/6/00

SAMPLE ANALYSIS: See item (1) in Special Instructions.

Sample No.	Matrix *	Sample Date	Sample Time	See item (1)
B10F62	SOIL	10-4-00	0915	X
B10F63	SOIL	10-4-00	1000	X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
DW SHEA / DW Shea	10/4/00 1505	Stored in Fridge 2A ET 10/4/00	10/4/00 1505
Removed from Ref #2A 3728 (RT 10/6/00)	10/6/00 0830	R Thoren	10/6/00 0830
R Thoren	10/6/00 0830	FED EX	
FedEx	10-7-00 0950	Thoppel	10-7-00 0950

SPECIAL INSTRUCTIONS
Lab COA: R1325N-2F00
RK 10/4/00
~~(1) ICP Metals - 6010A (TAL) (Barium, Cadmium, Chromium, Silver); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium)~~; Metals by ICP (TCLP) - 1311/6010; ~~Mercury (TCLP) - 1311/7470; IC Anions - 300.0 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.1, pH (Soil)~~ RK 10/4/00
TCLP - Pb ONLY RK 10/4/00

NOTE: THESE SAMPLES WERE COLLECTED FROM NON-RAD CONTROLLED AREA (<2000 pCi/g) NO TOTAL ACTIVITY REQUIRED. RK 10/4/00

Matrix *: S=Soil, SE=Sediment, SO=Solid, SL=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)